

THE
OREGON TUALATIN VALLEY
AMATEUR RADIO CLUB
NEWSLETTER

APRIL, 1988



AN ARRL SPECIAL SERVICE CLUB

Next Meeting: April 13

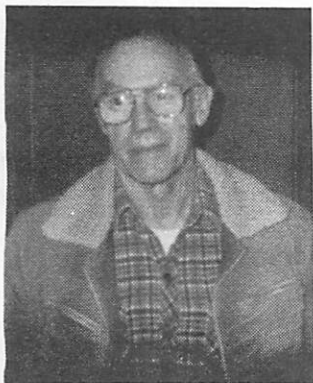
SPOTLIGHT ON A HAM By Lorna, KA7RFD

Serving for the first time as an officer of OTVARC meet Ralph Karls, WB7VGS already known to many of you for his work as a Volunteer Examiner.

Ralph's interest in radio started when he and his Grandfather would listen to shortwave radios that he had built and he recalls this Granddad used to set his watch every night from the tone of Big Ben in London. Ralph built his first tube radio when he was nine years old but says he had even built crystal radios before that. As a young man he earned his living repairing radios and then television sets.

He was born in Portland and attended Benson High School, followed by service in the Air Force in WWII as a Control Tower Operator in North Africa, Italy and Corsica.

Interest in ham radio began when next door neighbor Randy, KA7HJT and near neighbor Roger, K7RXV decided it was time to do more than CB. Ralph now admits that he hardly ever gets on the air, but intends to get back to it some day and is more interested in design and building things. He says he gets tongue tied when talking on the radio, so CW is his preferred mode.



RALPH KARLS
WB7VGS

now retired after working for 25 years at Tektronix where he designed digital circuits and instruments, Ralph now enjoys playing with the computer, photography, singing in the church

choir, yard work and, when he and wife Mildred have time, camping in their trailer. They have a daughter living in Massachusetts, a son in Portland and three grandchildren.

Ralph feels that our club is doing really well but is concerned about how we get new members involved and more active and will strive while he serves as a Trustee to get this resolved.

SHARING By John, K7SHC

One of the things that helps develop fellowship and a common bond within a group is sharing events in our lives; some large, most small; some sad, most glad.

To promote this, I will provide an opportunity for members to stand up and briefly share something with other members. An appropriate time for this would be just before the program break. Thus, your shared comments will be fresh in the minds of the members should they want to visit with you during the break. Possible items of interest might include: A thank you or a request for assistance from club members, an interesting QSO or DX contact, news of past members, your participation in a net, a favorite QSL card, etc.

Your sharing does not need to be much, the important thing is participation.

APRIL PROGRAM

Sandy Mikalow, K700Z will be discussing the NW Astronomy Group and net. Sandy, who has presented programs to OTVARC before has a brand new program and will tell us about astronomy in relation to Packet and tell us about sky mapping. Sounds like a real interesting program. Come out and enjoy it.

ACTING PRESIDENT'S MESSAGE BY John,
K7SHC

Recently, my daughter Kathy received a QSL card from KA7ZLL with a four line poem on it that reads:

"Some ships sail east, and some sail west,
By the selfsame gale that blows.
It isn't the gale, but the set of the sail
That determines the way it goes."

As I reflected on these lines, I thought of OTVARC as the club approaches its tenth anniversary. Although my history with the club is short, its present A-1 condition speaks well for the set of the sail over the years.

As a "Special Service Club" as defined by the ARRL, OTVARC and its members are active in a variety of different areas of the hobby including: License classes and testing; demonstration of amateur radio at public events such as Beaverton Good Neighbor Days and Scout Jamboree; public service events such as running and bicycle races including Hood to Coast Relay and the Rose Parade; emergency services such as forest fires; operating events such as Field Day, Bicentennial station and club contests; construction projects; social events such as RV camping, dine-out night and Holiday Party. Finally, the club sponsors and operates SEAPAC, a major ham event each Spring which provides economic support for the club. In addition, this year, many members are actively involved with the 1988 ARRL National Convention that will be in Portland this Fall.

The common element that makes all these events possible is the full and active support of the crew of the club ship. OTVARC has been fortunate to consistently have an active membership of over 200 members the last couple of years. This large, diverse membership provides a pool of talent to present and carry out these activities. It is the strength of the club.

My message is that the club benefits from the full and active participation of its members. To the general membership I say, come help set the sail. Find an activity that is right for you, let the leader of the activity know of your interest and desire to participate, then go for it. Leaders will respond to an enthusiastic participant.

And, to the leaders of activities I say, actively seek out new participants in your activity; many will not step forward on their own, but will respond to your personal interest in them. Once recruited, encourage full and active participation in decision-making within the activity as they will be the future setters of the sail.

Three cheers for the members of OTVARC as the club celebrates its tenth anniversary. May the club continue to

sail on full sail under the fair skies of the fun and good fellowship of amateur radio towards its twentieth anniversary.

LIONS OPERATION PHONE BOOK

We were honored at the March meeting to have Don Adams, President of Lions Operation Phone Book along with George Kelter and Bill Irwin attend part of our meeting and present a plaque to OTVARC members for their continued assistance with this project.

Over 600 tons of discarded phone books were collected, the best effort in 18 years.

All proceeds from the sale of phone books go to the Oregon Eye Bank.



PAUL, WB6SHR ACCEPTS A PLAQUE ON BEHALF OF OTVARC MEMBERS FROM GEORGE

SPECIAL ELECTIONS UNDERWAY
By Jeff, K7JF

In accordance with the OTVARC Constitution and Bylaws, ballots have been mailed to all full and full family club members.

The ballots include election of the new Club President and three amendments dealing with amendments, dues and elections.

All ballots must be RECEIVED by the Secretary by the beginning of the April 13 club meeting. Those ballots not received in time will not be counted.

Ballots may be addressed to:
OTVARC
PO Box 25545
Portland, OR 97225-0545.

THE OTVARC TRAVELERS - REMINDER

April 15-17, Bar View Jetty County Park near Rockaway. All welcome.

DX FOR BEGINNERS AND OTHERS

By Greg, W7AGQ

Last column, we discussed propagation - the how your signal gets from here to there and his or hers back to you. Probably the biggest topic among DXers is antennas. In fact, that's the number one subject for hams in general.

There are several sayings which will serve you well. 1. The bigger the better. 2. The higher the better. 3. If it stayed up all winter, it is obviously too small. There are some truths to all these comments.

First though, let's define some terms. There are dipoles...wire or other form of metal, usually about 1/2 wave length long and split in the middle. This is the basis for almost all DX antennas.

You have heard about beams. A beam acts somewhat like a flashlight. It puts as much energy as possible in a particular direction. For radio communication, this is very, very helpful. On transmit, your signal goes with greater power in the direction you want. Much of the energy that could go backwards, up or down and off to the sides can be directed in one direction with a beam.

There are many types and sizes of beams. In a later column I may talk about quads, rhombics, vee-beams, long wires and many, many others. At this point though, I'll concentrate on the YAGI antenna. I will skip the history except to say that it is a Japanese invention.

A simple form a YAGI consists of a dipole with a reflector to the rear (remember the flashlight) and possibly some director elements in front. If you want to draw a top view of a YAGI, simply draw a horizontal line (left to right) and then space three vertical lines through it so that you have the same distance above as below your horizontal line. To further refine the beam, make the left vertical line the longest and the right one the shortest. You can now label them...R for reflector (the longest or left vertical line), DE for driven element (the middle line) and D for director. The horizontal portion of our YAGI is called the boom (probably because it makes a loud noise when striking the ground after falling off your tower).

Basically the signal goes from your transmitter, up your transmission line to the driven element. Hopefully some of the energy will be sent forward to the director. Obviously some of the driven element energy will go backwards but that's OK. It will strike the reflector and be reflected forward to the driven element again. It may then be reradiated in a forward direction.

As the director, the signals will be radiated mostly forward. This is largely done because of timing...which engineers call phasing (this is to confuse us and make us think they really know what they are talking about).

If this has all worked the way it is supposed to then we can draw an arrow just to the right of the boom and pointing toward the right. That arrow is only for transmit. Fortunately the reverse works on receive. Signals coming from the right on our top-view drawing will be generally amplified or strengthened as they head toward the driven element and down to your receiver. The reflector tends to diminish those signals from the back (from the left on our diagram).

Now that I've set out a simple YAGI, let me caution you...there is much more to it. More later.

73 (and 88 where appropriate).

FCC VE TESTING

NORTHWEST AMATEUR RADIO COUNCIL AMATEUR RADIO LICENSE EXAMINATION TECHNICIAN THROUGH EXTRA

Portland Community College
Sylvania Campus
College Center Building
Cedar Room (Adj. to Cafeteria)
12000 SW 49th, Portland

EXAMS HELD FIRST SATURDAY OF EACH
MONTH BEGINNING PROMPTLY AT 10:00AM

REGISTRATION INFO:

1. Bring Original license + photocopy and original Certificate if you have one. Also bring identification with picture.
2. Bring a check or money order for \$4.55 payable to ARRL/VEC.
3. Arrive about 9:30AM.

More info: Call Randy, KA7HJT 649-5066

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SELF SUPPORTING REMOTELY TUNEABLE
ANTENNA FOR 2-160 METER OPERATION
By Steve, KA7MOW with assistance from
Willis, N7DZR and John, N7DCQ

This article describes a revolutionary new concept in portable antennas using a unique combination of existing technologies. The club members who were involved spent quite a bit of time working to perfect this antenna and to test it in real life situations. This antenna is ideal for emergency radio operations since it is portable, self supporting and is easy to erect. The antenna manages to keep the SWR on all amateur bands below 1.5:1 and only varies to a maximum of 2:1 on a few frequencies well beyond the amateur bands. Due to the wide band tuning nature of this antenna it lends itself nicely to those interested in MARS, CAP, marine or military frequencies.

The "Travelers" of the club also participated in the development of this antenna. The project was actually conceived before the travelers group was formed - they just provided the test bed for the project. Since the Travelers voyage to sea, mountains, lakes, etc. at least once a month it was deemed a natural for field testing this portable antenna. Not only did we have realistic sites at which to check its operation, we had an ideal team of varying aptitudes and capabilities to attempt the erection of this antenna. The team varied from trip to trip.

The self supporting nature of the antenna is due to the use of advanced lighter-than-air technology. The antenna is comprised of a special conductive mylar fabric which has an exceptionally high coefficient of expansion along the tuning axis and a low coefficient of expansion along the radial axis. The support cable and antenna is pressurized with hydrogen gas. Hydrogen is used for two reasons:
1. Cost (have you priced helium lately?)
2. Quick dismantling capability from a ground control. We found a special hi-gain multi-coax, with multiple conductors included for power and control of the antenna when launched.

The antenna is designed to be aerodynamic so that in a high wind situation the motion of the air around the antenna will cause a higher density of air on the down-wind side of the antenna. The effect of this density change is such that it causes the antenna to push into the wind. Due to these factors, this antenna has a slight negative wind load factor. By adding directors, reflectors and spacing elements (optional) it is possible to create a beam antenna.

There was quite a bit of excitement in the early testing when we found that the initial samples of fabric created hot-spots that caused brilliant displays when the hydrogen gas became ignited while transmitting.

The first supplier of the hydrogen gas sold it by the pound. It took him some time to realize why we bought such huge quantities volume wise. When he finally went out of business, we decided to go with liquid hydrogen instead. A plus was found with the usage of the liquid hydrogen. We could use the cold to cool the output stages of our transmitters. Special heat sinks were built to handle the heat exchange, so we were able to make the output stage, capable of the full legal power limit available to amateurs, slight larger than a hand held handi-talkie. The size was due to the spacing requirements when handling that much power to prevent arc-overs. The use of full legal power is encouraged since this helps the vaporization of the liquid hydrogen to a gaseous state. The vaporized gas from the cooling stage is used to keep pressure in the antenna and also provides the fuel for the control thrusters for direction control.

A ni-cad battery pack is used to power direction control thrusters, ignition and control valves for thrusters, direction sensing equipment, etc. The direction control system is based on a compass attached to an optical readout device to give 8 bit resolution of the compass rose which yielded 256 discrete directions. We felt that this was enough resolution to satisfy the most ambitious amateur enthusiast. The rotation coupling device is hand made for this antenna, as no commercial equivalent part could be found. The part had to be leak proof for both the supporting gas and for RF (to minimize SWR across the tuning range). We felt that the use of 'O' rings would be a compromise, so the rotational coupler was machined out of a light weight alloy with zero tolerances allowed. Each coupling is precisely matched and fitted. We are sorry to say that the coupling can only be purchased as a complete assembly for the above reasons.

Safety note: If used within 100 miles of an airport you may need to get FAA permission. At least notification should be given as to location and proposed elevation of the antenna.

STANDARD EQUIPMENT LIST

50 ft. support cable and hand powered take up reel.

Fixed aspect ratio expandable conductive antenna.

Liquid hydrogen holding tank, sufficient for at least two days operation.

Standard control panel.

Special multi-adaptable liquid hydrogen heat sink adapter.

OPTIONAL LIST:

Aircraft warning lights on antenna and support cable.

Lightning powered battery charger.

Up to 1 mile support cable and motorized take-up reel.

Deluxe control panel consists of:

Special automatic control of pressure referenced to current barometric pressure.

Large easy to access emergency descent control.

Built-in SWR meter and pressure control circuitry to keep the SWR at the lowest value possible at all times.

Directors, reflectors and spacers can be added to make a beam antenna.

The OTVARC Travelers welcome your comments and ideas. Come on out with us the third weekend of each month and enjoy the get togethers and help work on newer even more innovative projects.

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LORNA'S LOOKOUT By Lorna, KA7RFD

Disappointment was expressed by several members that no presentation was made to Paul, WB6SHR at the last club meeting. Certainly, it was an unexpected announcement that he would be returning to California, but.....

To rectify this a group of members gave Paul an "I.O.U" for a round trip plane ticket to the National Convention at an impromptu going away party kindly hosted by Amy, N7HJD and Jeff, K7JF. Now the money has to be raised.

Each member will be asked to contribute a minimum of one dollar at the next club meeting. Chuck, N7DZA has "volunteered" to be the fund raiser chairman. Let me say straight away, this has not been the Board's decision. In fact, there hasn't even been a Board meeting where this could be discussed, but the Board will be asked to consider allocating a part of the proceeds from the April drawing to the fund for Paul and a couple of people have offered to donate prizes.

The By-Law Committee of Geno, KA7KBH; Greg, W7AGQ; Jim, AE7W and chaired by Van, KE7BB have spent many hours revising the by-laws in accordance with members' suggestions. Unfortunately there is no explanation of the changes in your ballot envelope and many of us do not have a copy of the Constitution and Bylaws. If you need any clarification on the proposed changes before you vote, the above gentlemen will be happy to answer your questions.

THE OTVARC NEWSLETTER is published monthly by the Oregon Tualatin Valley Amateur Radio Club, Inc. The opinions, views and recommendations of its contributors are not necessarily those of the Club, its officers, advertisers or Newsletter Committee.

Articles may be submitted to:
Lorna Campbell, KA7RFD, Editor
9890 SW Inglewood
Portland, OR 97225.

Cutoff date for all newsletter material is the 20th of the preceeding month.

Dues for OTVARC membership are \$10.00 per year and are prorated quarterly. There is a one-time initiation fee of \$2.00.

Meetings are held on the Second Wednesday of each month at the Beaverton Elks Lodge, 3500 SW 104 Avenue, starting at 7PM. A buffet dinner is served at 6:15PM.

All correspondence other than for the Newsletter should be sent to:
Ore. Tualatin Valley Amateur Radio Club
PO Box 25545
Portland, OR 97225-0545.

NEW MEMBERS CORNER By Kathy, KB7DNK

We have three new members this month. John Bilka, KB7DQY, Leonard Thompson, KA7IOB and Nancy Weinstein.

John first got interested in ham radio because his Dad was a ham. At the end of KA7HJT, Randy's class, he got his Novice ticket, about three months ago. John and his wife Mary Ann, have two children; Michael, 13 and Ivy, 10. His hobbies include camping and gold prospecting. John says one of the things he likes about ham radio is meeting new friends.

Leonard tells me he has always been interested in ham radio. He was licensed in 1946. He works at N.W. Scientific and some of his hobbies are hunting, fishing and photography.

Nancy just passed her Novice exam a few weeks ago and is now studying for her General. Her husband is Stan, KX7Y. They have a daughter, Susan, 11. Nancy works at the Port of Portland. She also enjoys boating.

Let's try to make them all feel welcome!

FIELD DAY APPROACHES By Jeff, K7JF

Yes folks, only a scant three months until we pack our tents and head down to Champoeg Park for our annual ARRL Field Day. This year's event will take place the weekend of June 24-26.

If you are interested in helping to put it all together, please let one of your Board members know. Details and contact resources will be announced at the April meeting.



CHAMPOEG PARK

***** FOR SALE

25" Heath-Zenith color TV with remote and Hi-Fi extra output audio. All solid state except HV rectifier and CRT. Works excellently on VHF. UHF tuner needs minor work.. Instruction books, schematics and some spares. No cabinet.

\$95.00 Floyd, W7KLE 649-6486

RUSH DRAKE HOSPITALIZED

At press time we hear that Rush, W7RM our NW Division ARRL Director and club member is hospitalized in Washington, D.C. following an automobile accident.

Apparently he was not too seriously hurt although we don't know full details. Rush was back east to attend an ARRL Executive Board meeting.

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Available at Meetings or
Call Paul, WB7BBG 244-7420 for info.

TUPPERWARE FUND RAISER CONTINUES

Still time to ask friends and neighbors if they would like to buy Tupperware. Call in orders to Bobbi Antons who is working without commission so that all proceeds can go to OTVARC.

Remember, Tupperware isn't just for the kitchen. While you are sorting through the garage and ham shack for donations to the GREAT GARAGE SALE at the end of July, think how nice it would be to have everything organized in Tupperware. Excellent for fishing tackle and all the gizmos you have in the ham shack.

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Landline telegraph relay (150 Ohm) Vintage 1920 \$12.00
Landline telegraph relay (150 Ohm) Vintage 1925 \$15.00
24 Volt (AC) Transformer, (5 Amp) No "Centertop", 120 primary \$3.00
#226 R.C.A. Receiving tube with new bakelite socket. (Collector item) \$2.00
(KW) "Coax" antenna changeover relay S.P.D.T. \$10.00
12" P.M. Speaker \$2.00

BOB, K6RH 648-1246

ANOTHER RECIPE By Betty, W7CPV

BETTY'S ENERGY BARS

1 cup flour
1/2 tsp. each nutmeg and baking powder
1/2 cup sugar
1/4 cup Crisco unsaturated oil
2 eggs (large)
8 oz chopped dates
1 Tbsp. lemon juice
1 cup walnuts, chopped
Topping: 1 tsp. sugar and 1/2 tsp. nutmeg

Mix the first 6 items with a wooden spoon. Add dates, nuts and lemon juice. Spread in an ungreased 8" or 9" pan.

Bake in preheated oven at 350 deg. for 30 minutes. Test in center with tooth pick for doneness.

Sprinkle the sugar-nutmeg mixture on top and let cool in pan. Cut into squares and enjoy.



OH HARRY -- THE GENTLEMEN FROM THE ANTENNA ORDINANCE ENFORCEMENT COMMITTEE ARE HERE TO NEGOTIATE!

PUBLIC SERVICE By Randy, KZ7T

Well, there hasn't been much going on in Public Service this last couple of months. We have had some of our "quickie" runs downtown and I would like to thank the "good old regulars" Bud, KC7PS, Mike, KE7HS and Jim, KB7ADH. Jim hasn't been one of the "regulars" but he is fast becoming one.

We worked the nation's largest 8K race which was the Shamrock Run. There were close to 8,000 runners and that was quite a sight to see.

I would like to remind everyone of the Trask Motorcycle Trials on June 26 and 27. If you would like to help on this, please contact Dave, WB7REC, 657-4058. One point about the Trask is that it is the same weekend as Field Day and the Cascade Run Off.

I'll be giving more reports as the year progresses.

HELP WANTED By Lorna, KA7RFD

We need to be looking for a new Editor. After a lot of thought I have decided the December issue will be the last I write. That will be about two and a half years as OTVARC editor and, I feel it's someone else's turn.

I've certainly enjoyed the job and I appreciate the great help I've had and the fine contributions from so many of our members. But, in truth, it's becoming more of a chore each month and I feel I've lost some of the sparkle. Also there's other things I would like to do with ham radio - work at my General license and maybe someday run as an officer.

My personal feeling is that a Board member should not be the Editor. There have been one or two occasions when a little conflict has arisen and the Newsletter has to be the voice of the membership as well.

I'll give any assistance I can to the next Editor - maybe it's time to have a group putting it together. Believe me, it takes many hours each month.

On a more urgent basis, I need someone willing to do the July issue. As some of you know I had to go to London unexpectedly earlier this year and need to go back in June for three or four weeks to get things finished up. Will someone please step forward.

In talking to club members, I hadn't realized quite how many of us were interested in gardening. Anyone willing to write a gardening column with emphasis on ham radio? Got any good ideas about how to camouflage that tower, anyone growing petunias from the end of the beam? The possibilities are endless.

THE PRIDE OF PORTLAND



CHUCK BOCK N7DZA

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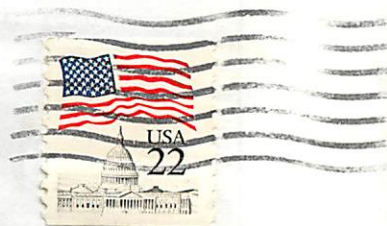
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